

CLAIMS

1 – Vertebral osteosynthesis equipment, including bony anchoring members, such as pedicular screws (1) and/or hooks, one or two linking rods (2), intended to be connected to these anchoring members, and parts (3) for
5 connecting this(these) rod(s) (2) to these anchoring members ; at least one of the anchoring members is of the "polyaxial" type, i.e. it comprises a proximal stud (5) articulated with respect to a base portion (6) enabling bony anchoring ; clamping means (4) enable assembly of the connecting part (3) on the anchoring member ;

10 equipment characterized in that the proximal stud (5) comprises a surface (12, 32) forming an axial stop, against which the connecting part (3) to be installed on the polyaxial anchoring member is intended for resting, and in that said clamping means (4) enable to clamp this connecting part (3) against this surface (12, 32), said surface (12, 32) being positioned so that the
15 connecting part (3), when it is clamped against this surface (12, 32), is not clamped against the base portion (6) so that there remains, after clamping, a possibility of articulated backlash of the proximal stud (5) with respect to said base portion (6).

2 – Vertebral osteosynthesis equipment according to claim 1,
20 characterized in that at least one polyaxial anchoring member comprises at least one part or portion of a part (31) with elastically deformable structure, interposed, after assembly, between said connecting part (3) and a bearing surface (17, 18).

3 – Vertebral osteosynthesis equipment according to claim 2,
25 characterized in that said part or portion of a part (31) with elastically deformable structure is formed in order to dampen the movement of the proximal stud (5) over the whole backlash of this stud, and is notably composed of a compressible material.

4 – Vertebral osteosynthesis equipment according to claim 2,
30 characterized in that said part or portion of a part (31) with elastically deformable structure is formed in order to provide this dampening effect only in the extreme positions of the backlash of the proximal stud (5).

5 – Vertebral osteosynthesis equipment according to any of claims 1 to 4, characterized in that the proximal stud (5) and said surface (12, 32) forming an axial stop are formed in order to enable the adjustment of the axial position of this surface (12, 32) with respect to the proximal stud (5), and in that this
5 surface (12, 32) is formed to clamp said part or portion of a part (31) with elastically deformable structure between said surface (12, 32) and said bearing surface (17, 18) against which this part or portion of a part rests.

6 – Vertebral osteosynthesis equipment according to claim 5, characterized in that the proximal stud (5) is threaded and said surface (32)
10 forming an axial stop is in the form of a part with a tapered hole which may be screwed on this stud (5).

7 – Vertebral osteosynthesis equipment according to any of claims 2 to 6, characterized in that said bearing surface (17, 18) against which the part or portion of a part (31) with elastically deformable structure rests, may be a
15 surface (17, 18) provided on said base portion (6) or the vertebral bone itself.

8 – Vertebral osteosynthesis equipment according to any of claims 1 to 7, characterized in that the walls (11, 17) of the proximal stud (5) and of the base portion (6) which slip against one another during the backlash of this stud (5) include a smooth and resistant coating layer, capable of resisting a very large
20 number of slipping movements of these walls against one another, such as a ceramic or titanium nitride coating layer.

9 – Vertebral osteosynthesis equipment according to any of claims 1 to 8, characterized in that the articulation of the proximal stud (5) consists of faces (11, 17) in the form of a sphere or of portions of a sphere slipping against one
25 another, and in that these faces (11, 17) exhibit a diameter which is significantly greater than that of the proximal stud (5), notably at least double the diameter of this stud.

10 – Vertebral osteosynthesis equipment according to any of claims 1 to 9, characterized in that at least one linking rod (2) of the equipment
30 comprises :

- a portion (2a) of rod including a part (41) with elastically deformable structure and an articulated stud (5),

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- another portion (2b) of rod including a bearing zone (42) against this part (41) with elastically deformable structure, and

- clamping means (43) to clamp this bearing zone (42) against this part (41) with elastically deformable structure.

- 5 11 – Vertebral osteosynthesis equipment according to any of claims 1 to 10, characterized in that the connecting part (3) comprises preferably a rounded section (20) intended for surrounding a linking rod (2) and two parallel drilled wings (21), intended for engaging onto said proximal stud (5) and for being clamped towards one another in order to provide the clamping of said
- 10 rounded section (20) around a linking rod (2).